

ACCESSION NR: AP4013321

Atomic Energy); Institut elektronnykh upravlyayushchikh mashin (Institute of Electronic Control Machinery); Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii (Central Scientific Research Institute for Complex Automation)

SUBMITTED: 08Jul63

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NR REF SOV: 000

OTHER: 000

Card

2/2

BRUDNO, A.L.

Programming in supporting notations. Dokl. AN SSSR 154
no.2:279-282 Ja'64. (MIRA 17:2)

1. Institut elektronnykh upravlyayushchikh mashin.
Predstavleno akademikom P.S. Novikovym.

ADEL'SON-VEL'SKIY, G.M.; BRUDNO, A.L.; KRONROD, A.S.; REZNIKOVSKIY, P.T.

System of commands for a three-address machine without address register. Dokl. AN SSSR 154 no. 3:545-548 Ja '64.
(MIRA 17:5)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii, Institut elektronnykh upravlyayushchikh mashin i Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii.

BRUDNO, Aleksandr L'vovich; GORYACHAYA, M.M., red.

[Introduction to programming in symbols according to
content] Vvedenie v programirovanie v sodержatel'-
nykh oboznacheniiakh. Moskva, Nauka, 1965. 147 p.
(MIRA 18:11)

BRUDNO, I.

Real and imaginary. Izobr.i rats. no.7:42-43 J1 '60.
(MIRA 13:8)

1. Zaveduyushchiy priyemnoy Tsentral'nogo soveta
Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov.
(Technological innovations)

BRUDNO, I.; POLUSHKIN, V.

" Approve but do not introduce". Izobr. 1 rats. no.7:5 J1 '61.
(MIRA 14:6)

(Motor vehicles--Engines--Technological innovations)

BRUDNO, I.

Vivifying ions. Sov.shakht. 10 no.6:36-37 Je '61. (MIRA 14:9)

1. TSentral'nyy sovet Vsesoyuznogo obshchestva izobretateley
i ratsionalizatorov.

(Air, Ionized--Therapeutic use)

(Coal miners--Diseases and hygiene)

BRUDNO, I.

Uncultivated virgin land. Izobr. i rats. no.1:26-27 Ja '62.
(MIRA 14:12)

1. Starshiy instruktor Tsentral'nogo soveta Vsesoyuznogo
obshchestva izobretateley i rationalizatorov.
(Agriculture--Technological innovations)

BRUDNO, I., starshiy instruktor

Contribution of inventors and innovators. Okhr. truda i sots.
strakh. 5 no.5:14 My '62. (MIRA 15:5)

1. TSentral'nyy sovet Vsesoyuznogo obshchestva izobretateley
i ratsionalizatorov.
(Technological innovations)

ZELENIN, Yevgeniy Vladimirovich; LAPKO, A.F., red.; RYVKIN, A.Z.,
red.; BRUDNO, K.F.

[Elementary manual on mechanical drawing] Elementarnyi
spravochnik po chercheniu. Moskva, Fizmatgiz, 1963. 254 p.
(MIRA 16:10)

(Mechanical drawing)

BRUDNOY, G. (Voronezh)

With initiative. NTO no.3:16 Mr '59.

(MIRA 12:6)

1. Predsedatel' soveta pervichnoy organizatsii nauchno-
tekhnicheskogo obshchestva zavoda "Tyazhmekhpess."
(Voronezh--Power presses)

SERGEYEV, A.V.; MARKOV, M.G.; BRUDNOY, G.A., inzhener.

Cutting tool with no-slot chip breakers. Vest. mash. 36 no.6:
36-38 Ja '56. (MLRA 9:10)

(Cutting tools)

BRUDNOY, G.A.

Attachment for cutting rack-teeth on gear-shaping machines.
Vest. mash. 36 no.8:68-69 '56. (MLRA 9:10)

1. Syzranskiy gidroturbinnyy zavod.
(Gear cutting)

BRUDNOY, G.A.

Presses manufactured at the Voronezh Plant of Heavy Power Presses.
Bul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekhn.inform. no.7:
27-32 '62. (MIRA 15:7)
(Voronezh—Power Presses)

BRUDNOY, G. A.

Automatic lines for stamping ball-bearing rings. *Biul. tekhn.-
ekonom. inform. Gos. nauch.-issl. inst. nauch. i tekhn. inform.*
no.12:32-34 '62. (MIRA 16:1)
(Machinery, Automatic)
(Bearing industry)

BRUDNYY, A. A.

USSR/Human and Animal Physiology. Digestion. Salivary Glands. T-7

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55697.

Author : Brudnyy, A. A.

Inst :

Title : The Discharge of Radioactive Phosphorus Isotopes in
Processes of Chordal Secretion.

Orig Pub: Sov. zdravookhr. Kirgizii, 1957, No 5, 30-31.

Abstract: $N_3P^{32}O_4$ (with radioactivity of 15-500 μ Curie/kg)
was intravenously injected into dogs. Subsequently,
the P^{32} salivary discharge curves of the submaxillary
gland (SG) were determined for a period of 3-7 hours.
The saliva secretion was provoked by intermittent
electric irritations of the chorda (10 second irrita-
tion time followed by an interval of 5-20 minutes).
These P^{32} discharge curves proved to be relatively

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Brudnyy, A.A.

USSR/Human and Animal Physiology - Nervous System.

V-12

Abs Jour : Ref Zhur - Biol., No 1, 1958, 4504

Author : A.A. Brudnyy

Inst : Kirgiz Medical Institute.

Title : On the Problem of the Unity of Two Signalling Systems.

Orig Pub : Trudy Kirg. med. in-t, 1956, 8, 105-108

Abstract : No abstract.

Card 1/1

BRUDNYY, A. L.

"Clinics of Hypo- and Avitaminosis of Upper Respiratory Tract and Organs of Hearing,"
Sb. Nauch Trudov, Vol. 4, pp. 156-62, 1949.

Kirgis State Med. Inst.

BRUDNYY, A.L.

Control of anginas and acute catarrhal affections of the upper respiratory passages is the most important task in lowering the incidence of disease. Sov.zdrav.Kir. no.2:27-31 Mr-Apr '58. (MIRA 12:12)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. - zasluzhennyy deyatel' nauki, prof. A.L. Brudnyy) Kirgizskogo gosmedinstituta.
(RESPIRATORY ORGANS-- DISEASES)

BRUDNYY, B. P.

137-1958-3-4632

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 24 (USSR)

AUTHORS: Brudnyy, B. P., Kagan, N. B., Fel'dman, I. A.

TITLE: Automation of Electrical Induction Furnaces (Avtomatizatsiya induktsionnykh elektricheskikh pechey)

PERIODICAL: V sb.: Raboty M-va elektrotekhn. prom-sti SSSR po mekhaniz. i avtomatiz. nar. kh-va. Vol 1. Moscow, 1956, pp 155-158

ABSTRACT: At the present time induction-type smelting furnaces are operated manually. Attempts made in 1947 to control automatically the voltage of the generator which supplied current to the furnace were not successful and were, therefore, abandoned in 1951. The basic parameter, requiring automatic regulation in induction furnaces, is $\cos \varphi$. Complete automatization of the electrical regimen requires automatic control of the power factor (PF), the voltage, and the generator current. In 1955, a special bureau of the "Elektropech' " ("Electrofurnace") trust began work on the development of a PF ($\cos \varphi$) regulator for an induction furnace. The following design was developed: A special gage measures the PF of the apparatus and transmits a control impulse to a device which adds or partially removes

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137-1958-3-4632

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condensers according to the nature of the impulse. During the switching process the regulator derives voltage from the supply generator. Positive operational results were obtained in the first tests of the given regulator, operating in conjunction with a regulator controlling the voltage of the generator. The number of experimental smeltings of Nr 55 steel increased by 7-10 percent; an average of 70,000 kw-hr may be saved annually, and an operator is no longer needed to run the furnace. The annual savings on electrical energy and wages are estimated at 30,000 to 40,000 rubles.

N. O.

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POLISHCHUK, Ya.A., inzh.; BRUDNYY, B.P., inzh.

Automatic power regulator for charge resistance furnaces. Biul.

TSNIIGM no.7:7-11 '58.

(MIRA 11:6)

(Electric furnaces) (Governors (Machinery))

Lawolchin, A.I. (Moscow). Classification of Converters of a Continuous Quantity into a Discrete Equivalent. This is a classification of analog-to-digital converters. There are 14 references; 5 cited and 9 English.

POLISHCHUK, Ya.A., inzh.; TREYZON, Z.I., inzh.; KALININ, A.V., inzh.;
BRUDYI, P.P., inzh.

Automatic control of high-frequency smelting devices. Vest. elektro-
prom. 31 no.12:54-57 D '60. (MIRA 14:2)
(Automatic control) (Electric furnaces)

S/110/60/000/012/003/004
EO41/E421

AUTHORS Polishchuk, Ya. A., Engineer, Treyzon, Z. L., Engineer,
Kalinin, A. V., Engineer and ~~Brudnyy, B. D.~~ Engineer

TITLE Automatic Controller for the Operation of a High
Frequency Melting Furnace

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No. 12, pp. 54-57

TEXT: The fundamental parameter to be regulated is the power factor. The natural power factor is inductive and equal to 0.1 to 0.2. To obtain the best output from the generator, a capacitive power factor of the order of 0.9 is preferred. The correction of the power factor is achieved by a battery of capacitors. Switching in the capacitors has a significant effect on the voltage of the system, e.g. increasing the capacitance by 3% increases the generator voltage by as much as 12%. It is therefore necessary to control the excitation current of the generator. The overall scheme has three separate regulators: a power factor regulator, a voltage regulator with current limit and a circuit for automatically changing over the electrical connections to the generator. The capacitors are arranged in 5 sets, the value of each set being twice that of the preceding one. It is thus

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Automatic Controller for the Operation of a High Frequency Melting Furnace

possible to select 31 different capacitance values. The selection is accomplished by an ordinary telephone stepping selector. The third regulator is intended for setting automatically the optimum value of the melter current by switching in various values of inductor. The overall effect of the system described has been an increase in productivity of 19%, a reduction in power consumption of 17% and a reduction in the number of servicing personnel. The annual saving on a 100 kW installation working 3 shifts is of the order of 50000 roubles. There are 3 figures,



SUBMITTED: May 23, 1960

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S/194/61/000/004/011/052

D249/D302

16.8000 (1121, 1132, 1327)

AUTHORS: Kagan, B.M., Dolkart, V.M., Voitelev, A.I. and
Brudnyy, B.P.

TITLE: A complex digital computer installation for investi-
gating processes occurring in control systems with
digital control machines

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 4, 1961, 21, abstract 4 B160 (V sb. Teoriya i
primeneniye diskretn. avtomat. sistem, M., AN SSSR, 1960, 288-295) *✓*

TEXT: A description is given of a complex computer installation
comprising the general purpose computer type M-3, general purpose
electronic computer type MN-8(MN-8), and a two-way data converter
for the analog and digital forms of information. The installation
is intended for simulating complex automatic systems, consisting
of a controlled object (analog part) and a controlling digital ma-

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A complex digital computer...

chine. In an exploratory system comprising a closed circuit, the object and the digital machine are tied together by means of the digital-analog and analog-digital converters. In this system the task of the digital machine is to process the object's output measured at some instant of time, and to prepare the instructions which are then sent to the object via converters. It is assumed that after having received the data from the object, the digital machine continues to process the data for a certain defined time interval after which, it suddenly changes its output control instructions. Then begins the "control cycle", at the end of which a new reading is taken from the object and a new computing cycle is initiated by the digital machine. In the present complex installation the object is simulated by the installation MN-8 and the function of the calculating machine is performed by the installation M-3. It may be noted that in general there exist three different operating conditions for the kind of installation considered. If the digital computer has the same speed of functioning as the analog computer, the operation is carried out in the real time scale. If the speed

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instruction is given together with the address of the cell to which the converted number should be sent, or from which a number to be converted should be taken. By using this instruction the control is effected of not only the converter, but also of channel switching and the corresponding switching in the computer itself. The combined analog-digital computing installation can be put to the dual purpose of solving mathematical problems and producing synthesis of the optimum conditions for adjustment and control systems. 1 reference. [Abstracter's note: Complete translation]

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BARANOVA, E.G., inzh.; BRUDNYY, B.P., inzh.; VARTANOV, Z.B., inzh.

Special machine for regulating the charging of a blast furnace.
Elektrotehnika 36 no.3:22-25 Mr '65.

(MIRA 1886)

87232

S/035/60/000/011/007/010
A001/A001

91700

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 11,
p. 52, # 11295

AUTHORS: Brudnyy, L.G., Bibarsov, R.Sh., Isamutdinov, Sh.O., Kolmakov, V.M.,
Rubtsov, L.N.

TITLE: Radar Observations of Meteors at the Stalinabad Astronomical Ob-
servatory During June - December 1957

PERIODICAL: Byul. In-ta astrofiz. AN TadzhSSR, 1958, No. 24, pp. 15-21

TEXT: In correspondence with the IGY program, radar determinations of
meteor numbers were conducted at Stalinabad from June 1, 1957. Instrument para-
meters are as follows: frequency, 72.98 Mc/sec; receiver sensitivity, $0.6 \times 10^{-12} \text{w}$.
Antenna of the "radiating guide" type, consists of an oscillator, a reflector and
seven directors. It is mounted at a height of 11 m above the ground, its beam
slope is 22° to the horizon. Its directivity coefficient is 24. The width of
directivity diagram in horizontal plane is $\pm 23^\circ$. In the vertical plane 3 lobes
are used with radiation maxima at the angles to the horizon being 22° , $31^\circ 15'$ and

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A001/A001

Radar Observations of Meteors at the Stalinabad Astronomical Observatory During
June - December 1957

41°30'. The graphs of monthly meteor activity are presented from June to December
1957, as well as monthly means of hourly numbers of meteors during daily and
nightly hours, which varied from 0.62 to 5.32. A number of active meteor streams
are noted.

V.N. Lebedinets

Translator's note: This is the full translation of the original Russian abstract.

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ISAMUTDINOV, Sh.O.; BRUDNYY, L.G.

Using radar observations in determining radiants of meteor showers.
Bul.Inst.astrofiz.An Tadzh.SSR no.30:62-66 '61. (MIRA 15:3)
(Meteors) (Radar in astronomy)

BIBARSOV, R.Sh.; BRUDNYY, L.G.; KOLMAKOV, V.M.

Radar observations of meteors in Dushanbe in 1958-1959.
Biul. Inst. astrofiz. AN Tadzh. SSR no.32:32-37 '62.
(MIRA 17:11)

KESEL'BRENER, Ye.G.; BOKSHA, V.G.; BOGUTSKIY, B.V.; BRUDNYY, O.Ye.;
KASATKIN, V.N.

Use of cybernetics in climatic therapy. Vop. kur., fizioter.
i lech. fiz. kul't. 28 no.5:404-410 S-0 '63. (MIRA 17:9)

1. Iz bazovogo sanatoriya imeni V.V. Kuybysheva, Yalta i
Instituta meditsinskoy klimatologii i klimatoterapii imeni
Sechenova.

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z									
COMMON ELEMENTS										COMMON VARIABLES INDEX									
CA 17 Processes and Properties Index Circulation method of preparing tinctures (confirmatory tests). A. G. Bosin and V. L. Brudnyi, <i>Farmatsiya</i> 1940, No. 9-10, 22-4.—The Solonchuk circulation method of making tinctures is subject to approx. the same losses as the maceration method. It gives tinctures with slightly lower d., much lower ash content (usually) and Miller no. from 2.5 to about 21% lower than in maceration tinctures. Alkaloid content may be as much as 20% lower in belladonna tincture. Tabulated data show yields and properties of valerian and belladonna tinctures made by the two methods. Julian F. Smith																			
ASB-ILA METALLURGICAL LITERATURE CLASSIFICATION										EST-STA-STA-STA									
1ST ORDER										2ND ORDER									
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z									

BRUDNYY, Yu.A.

The maximum modulus of a quasi-smooth function. Usp.mat.nauk
12 no.4:273-275 J1-Ag '57. (MIRA 10:10)
(Functions)

BRUDNYY, YU. A.

AUTHOR: BRUDNYY, YU. A., GOPENGAUZ, I. E.
 TITLE: On a Problem by N. N. LUZIN. (Ob odnom voprose N. N. LUZINA, Russian)
 PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 1, pp 12 - 15
 (U.S.S.R.)
 Received: 5 / 1957
 Reviewed: 6 / 1957
 PA - 2903

ABSTRACT:

In his paper on "An Integral and Trigonometrical Series" (1951) N. N. LUZIN raised the following problem: $f(x)$ denotes a continuous function; $f_n(x)$ denotes its n -th approximation. At certain points this approximation is very close and in other points it is only remote. The problem arises whether the measure of the point set of the latter type of points equals zero. Everything, of course, depends in this case on the laws of the approximation. Trigonometric or TSCHEBYSCHEFF's approximations are the most interesting. The problem may also be put as follows: Is there a measure of the set M_n for any function $f(x)$ which is continuous in $[a, b]$, which is equal to zero in the case of all sufficiently great n ? In the case of the class of functions which are continuous in a half-open interval the answer must be negative. A. F. TIMAN, in his lectures at the University of Dnepropetrovsk, supposed the answer to be negative also in the case of functions $f(x)$ which are continuous in a closed interval. On this occasion the measure of the set M_n tends towards zero, if $n \rightarrow \infty$. The results obtained from the present paper confirm

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On a Problem by N.N.LUZIN.

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this assumption. Further, three theorems are given and proved:

Theorem 1: There exists a function $F(x)$ continuous in $[a, b]$ and an infinite series of natural numbers $n_k (k = 0, 1, \dots; n_0, n_1, \dots)$ in such a way that the inequality $\text{mes} M_{n_k}(F) > 0$ holds for arbitrary k . Here $f(x)$ denotes a function continuous in $[a, b]$, $P_n(f; x)$ the polynomial with an order $\leq n$ which deviates as little as possible from $f(x)$ in this section, $M_n(f)$ the set of such points of the given section where $E_n(f) = |f(x) - P_n(f; x)|$ applies. In addition $E_n(f) = \max_{a \leq x \leq b} |f(x) - P_n(f; x)|$ holds good.

Theorem 2: There exists a function $F(x)$ continuous in $[0, 2\pi]$ and an infinite series of numbers $n_k (k = 0, 1, 2, \dots; n_0 < n_1 < n_2 < \dots)$ in such a way that the inequality $\text{mes} M_{n_k}^{(F)} > 0$ holds for arbitrary k . The quantities occurring in this theorem are defined.

Finally a third theorem and three conclusions resulting therefrom are given.

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ASSOCIATION: State University of Dnepropetrovsk
PRESENTED BY: A.N.KOLMOGOROV, Member of the Academy
SUBMITTED: 25.5.1956
AVAILABLE: Library of Congress

BRUDNYY, Yu. A., ^Uand Phys-Math Sci -- (diss) "Study of constructive properties of functions ^{fixed} ~~given~~ on the ^{exterior} surface of a terminal segment and on a semiaxis." Dnepropetrovsk, 1959. 8 pp (Min of Higher Education USSR. Dnepropetrovsk State U in 300th Anniversary of ~~the~~ Reunification of the Ukraine ^{and} with Russia). 150 copies. Bibliography at end of text (11 titles) (IL,38-59, 113)

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15(1)

SOV/38-23-4-6/8

AUTHOR:

Brudnyy, Yu.A.

TITLE:

Approximation by Entire Functions on the Exterior of a Segment and of the Semiaxis

PERIODICAL:

Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1959, Vol 23, Nr 4, pp 595-612 (USSR)

ABSTRACT:

Let $E_{a,b}$ denote the set $(-\infty, a] \cup [b, \infty)$, $a < b$, and let $\omega(f^{(r)}; t) \equiv \omega(t)$ be the modulus of continuity of the r -th derivative $f^{(r)}(x)$ of the function $f(x)$.
Theorem 2: If $f(x)$ possesses r uniformly continuous and bounded derivatives on $E_{a,b}$ and if it is $\omega(f^{(r)}; t) \equiv \omega(t)$, then for every $\sigma > 0$ there exists an entire function $G_\sigma(f; x)$ of at most σ -th degree, so that for $x \in E_{a,b}$ it holds

$$|f(x) - G_\sigma(f, x)| \leq C_r \left(\frac{\sqrt{(x-a)(x-b)}}{\sigma |x - \frac{a+b}{2}|} + \frac{1}{\sigma^2} \right)^r \omega \left(\frac{\sqrt{(x-a)(x-b)}}{\sigma |x - \frac{a+b}{2}|} + \frac{1}{\sigma^2} \right)$$

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where C_r does not depend on x and σ .

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Theorem 5 : If for a certain modulus of continuity $\omega(h)$ and for every $\sigma > 0$ there exists an entire function $G_\sigma(x)$ of at most σ -th degree to a function $f(x)$ defined on $E_{-1,1}$ so that

$$|f(x) - G_\sigma(x)| \leq \omega\left(\frac{\sqrt{x^2-1}}{\sigma|x|} + \frac{1}{\sigma^2}\right)$$

then it exists a constant C independent of h , so that it holds

$$\omega(f; h) \leq Ch \int_h^2 \frac{\omega(u)}{u^2} du, \quad 0 < h \leq \frac{1}{2}.$$

Theorem 7 : Let $f(x)$ possess r uniformly continuous and bounded derivatives on $[0, \infty)$, let $\omega(f^{(r)}; h) \equiv \omega(h)$. Then for every $\sigma > 0$ there exists an entire function $G_\sigma(f; x)$ of at most σ -th half degree (see Bernshteyn [Ref 1]), so that for $x \in [0, \infty)$ it holds

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Approximation by Entire Functions on the Exterior
of a Segment and of the Semiaxis

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$$|f(x) - G_{\sigma}(f; x)| \leq C_r \left(\frac{\sqrt{x}}{\sigma} + \frac{1}{\sigma^2} \right)^r \omega \left(\frac{\sqrt{x}}{\sigma} + \frac{1}{\sigma^2} \right)$$

Theorem 1 is a special case of theorem 2 for $a = -1$, $b = +1$. The theorems 3 and 4 contain inequalities which are needed for the proof of the following results. Theorem 6 is the inversion of theorem 1. Theorem 8 concludes an estimation for $|f'(x)|$ from the estimation for $|f(x)|$. The theorems 9 and 10 contain for the case $E = [0, \infty)$ the analogous statements to the statements of the theorems 5 and 6. The author mentions S.N. Bernshteyn, V.K. Dzyadyk and M.I. Akhiezer. He thanks A.F. Timan for the subject. There are 6 Soviet references.

PRESENTED: by I.N. Vekua, Academician
SUBMITTED: June 12, 1958

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16(1)

AUTHOR: Brudnyy, Yu.A.

SOV/20-124-4-2/ 67

TITLE: Approximation by Entire Functions on the Exterior of an Interval and on the Semiaxis (Priblizheniye tselymi funktsiyami na vneshnosti otrezka i poluosi)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 739-742 (USSR)

ABSTRACT: Theorem: Let $f(x)$ be defined on the exterior E of the interval $(-1, 1)$ and let it have there r uniformly continuous and bounded derivatives, where $(f^{(r)}; h) = O(h^r)$. Then there exists a sequence of entire functions $G_n(x)$, $0 < n < \infty$, of the order ρ and a constant C not depending on x and n , so that everywhere on the exterior of $(-1, 1)$ it holds:

$$(1) \quad f(x) - G_n(x) = O\left(\frac{x^2 - 1}{x} + \frac{1}{2}\right)^r \cdot \left(\frac{x^2 - 1}{x} + \frac{1}{2}\right).$$

Theorem: Let $f(x)$ be defined on E , let $\omega(h)$ be the modulus of continuity. If there exists a sequence $G_n(x)$ so that

$$f(x) - G_n(x) = O\left(\frac{x^2 - 1}{x} + \frac{1}{2}\right) \quad \text{for } x \in E$$

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of an Interval and on the Semiaxis

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then there exists a constant C not depending on h , so that

$$(f, h) \leq C h \int_0^h \frac{(u)}{u^2} du, \quad 0 < h < \frac{1}{2}.$$

Theorem : Let $f(x)$ be defined on E , let (h) satisfy the

condition $\int_0^h \frac{(u)}{u} du < \infty$. If there exists a sequence $G(x)$

satisfying (1) with $C=1$, then $f(x)$ has uniformly continuous, bounded derivatives on E and

$$(f^{(r)}, h) \leq C h \int_0^h \frac{(u)}{u^2} du + \int_0^h \frac{(u)}{u} du, \quad 0 < h < \frac{1}{2}.$$

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Similar theorems are valid if E is a semiaxis. Seven theorems and auxiliary theorems are given altogether. The author thanks A.F.Timan for stating the problem and for his help. There are 4 Soviet references.

ASSOCIATION: Dnepropetrovskiy sel'skokhozyaystrennyy institut (Dnepropetrovsk Agricultural Institute)

PRESENTED: September 30, 1958, by S.N.Pernshteyn, Academician

SUBMITTED: September 25, 1958

Card 3/3

16(1)

AUTHORS:

Brudnyy, Yu, A., Timan, A. F.

SOV/20-126-5-3/69

TITLE:

Constructional Characteristics of Compact Sets in Banach Spaces and ε - Entropy

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 927-930 (USSR)

ABSTRACT:

Let F be an infinite-dimensional separable Banach space;
 $X \{x_k\}$ be a linear independent system closed in F . There always exist elements x , for which the best approximations

$$E_n^X(x) = \inf_{c_k} \left\| x - \sum_{k=0}^n c_k x_k \right\| \quad \text{tend arbitrarily slowly to}$$

zero, so that $\sup_{x \in W} E_n^X(x)$, where W is a bounded set in F ,

does not need tend to zero. If, however, this is the case, then W consists of elements for which the approximation velocity of the best approximations to zero possesses a common characteristic $\mathcal{E}_n^X(W) = \sup_{x \in W} E_n^X(x)$. Let $\varepsilon = \phi_W(\gamma)$ be

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Constructional Characteristics of Compact Sets
in Banach Spaces and ε - Entropy

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the inverse function of the ε - entropy of W . Theorem :

$$\varepsilon_{n-1}^X(W) \leq \phi_{W_X}(n+1), \text{ where } W_X \text{ is a set consisting of all}$$

$$x \in F \text{ for which it is } \|x\| \leq \varepsilon_0^X(W) ; E_k^X(x) \leq \varepsilon_k^X(W) .$$

Seven further similar theorems for special W -classes are given.
The author mentions A.G. Vitushkin, A.N. Kolmogorov, S.N.
Bernshteyn.

There are 10 references, 6 of which are Soviet, 3 American,
and 1 French.

ASSOCIATION: Dnepropetrovskiy gosudarstvennyy universitet imeni 300-letiya
vossoyedineniya Ukrainy s Rossiyey (Dnepropetrovsk State
University imeni 300-letiya vassoyedineniya Ukrainy s Rossiyey)

PRESENTED: March 4, 1959, by A.N. Kolmogorov, Academician
SUBMITTED: March 2, 1959

Card 2/2

68128

16(1) 16, 4/100

S/038/60/024/01/006/006

AUTHORS: Brudnyy, Yu.A., and Gopenganz, I.Ye.

TITLE: On the Measure of the Set of Points of the Maximal Deviation

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1960, Vol 24, Nr 1, pp 129-144 (USSR)

ABSTRACT: Let Q be a set of finite measure and let $\{f_k(x)\}_0^\infty$ be a sequence of bounded functions measurable on Q , where the difference $f_k(x) - f_n(x)$, $n \neq k$, may assume every value only on a set of the measure zero.

Theorem 1: If $M_n = E_{x \in Q} \{|f_n(x)| = R_n\}$, i.e. if M_n is the set of points $x \in Q$ for which $|f_n(x)| = R_n$ ($R_n \geq 0$), then

$\lim_{n \rightarrow \infty} \text{mes } M_n = 0$.

From the theorem there result some conclusions for approximations by functions on the whole real axis, by rational fractions, by Fourier partial sums, and by polynomials with respect to Markov's systems of functions. ✓

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On the Measure of the Set of Points of
the Maximal Deviation

S/038/60/024/01/006/006

Let $f(x)$ be continuous on $[a, b]$; let $P_n(f; x)$ be an algebraic polynomial of degree $\leq n$ deviating least from $f(x)$ on $[a, b]$,
 $E_n(f) = \max_{a \leq x \leq b} |f(x) - P_n(f, x)|$; let $M_n(f)$ be the set of points
 $x \in [a, b]$ for which $E_n(f) = |f(x) - P_n(f; x)|$.

Theorem 2: There exists a function $F(x)$ continuous on $[a, b]$
and an infinite sequence of natural numbers n_k ($k=0, 1, \dots$;
 $n_0 < n_1 < \dots$) so that for every k it holds $\text{mes } M_{n_k}(F) > 0$.

The problem Nr 28 of Luzin [Ref 1] is answered negatively in

Theorem 3: In the case of uniform best approximations by
algebraic (trigonometric) polynomials there exists a function
 $F(x)$ infinitely often differentiable on $[a, b]$ with the property
that $\text{mes } M_n(F) > 0$ holds for infinitely many numbers n . X

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S/038/60/024/01/006/006

On the Measure of the Set of Points of
the Maximal Deviation

Let $f(x)$ be continuous, $f(x+2\pi) = f(x)$; let $S_n(f;x)$ be the partial sum of the Fourier series of $f(x)$; let $M_n(f)$ be the set of those points $x \in [0, 2\pi]$ for which $|f(x) - S_n(f;x)| = \max_t |f(t) - S_n(f;t)|$.

Theorem 4: There exists a function $F(x)$ continuous on $[0, 2\pi]$ and an infinite sequence of numbers n_k ($k=0, 1, 2, \dots, n_0 < n_1 < n_2 < \dots$) so that $\text{mes } M_{n_k}(F) > 0$ for all k .

The authors mention N.N.Lusin, N.K.Bari, D.Ye.Men'shov, V.Ya. Pan, S.N.Bernshteyn, and A.A.Markov. They thank A.F.Timan for the theme and advices. ✓

PRESENTED: by S.L.Sobolev, Academician
SUBMITTED: May 9, 1958

Card 3/3

85230

S/039/60/052/003/007/007
C 111/ C 333

16.3000

AUTHORS: Brudnyy, Yu. A., Gopengauz, J. Ye. (Dnepropetrovsk)

TITLE: Generalization of a Theorem of Hardy and Littlewood

PERIODICAL: Matematicheskiy sbornik, 1960, Vol.52, No.3, pp.891-894

TEXT: The authors consider functions analytic in $|z| < 1$ and continuous in $|z| \leq 1$. The modulus of continuity on the boundary is defined by

$$\omega(\delta; f) = \text{l.u.b.}_{|\theta_1 - \theta_2| \leq \delta} |f(e^{i\theta_1}) - f(e^{i\theta_2})|.$$

Generalizing a theorem of Hardy-Littlewood (Ref.1) and sharpening a result of Ya. L. Geronimus (Ref.2) the authors prove

Theorem 4: In order that the function $f(z)$ on the unit circle has the modulus of continuity $\omega(\delta; f) = O(\omega(\delta))$, it is necessary and if

$$(1) \quad \int_0^1 \frac{\omega(t)}{t} dt = O(\omega(x))$$

is satisfied, also sufficient that in $|z| < 1$ it holds
Card 1/2

85230

S/039/60/052/003/007/007
C 111/ C 333

Generalization of a Theorem of Hardy and Littlewood

$$(2) \quad |f'(z)| \leq C \frac{\omega(1-|z|)}{1-|z|}$$

Theorem 5: If $f(z)$ possesses on the unit circle the modulus of continuity $\omega(\delta)$ which satisfies (1), then in $|z| \leq 1$ it holds the inequality

$$|f(z_1) - f(z_2)| \leq C \omega(|z_1| - |z_2|).$$

The authors thank A. F. Timan for the subject.

There are 2 references: 1 Soviet and 1 German.

[Abstracter's note: (Ref.2) is a paper of Ya. L. Geronimus in Matematicheskii sbornik, 1956, Vol. 38, pp. 320-330].

SUBMITTED: April 19, 1959

Card 2/2

BRUDNYY, Yu. A.; GOPENGAUZ, I. Ye.

Approximation by piecewise polynomial functions. Dokl. AN SSSR 141
no. 6:1283-1286 D '61. (MIRA 14:12)

1. Konotopskiy obshchetekhnicheskiy fakul'tet Khar'kovskogo
gosudarstvennogo universiteta i Dnepropetrovskiy sel'skokhozyaystvennyy
institut. Predstavleno akademikom A. N. Kolmogorovym.
(Polynomials) (Approximate computation)

BRUDNYY, Yu.A.; GOPENGAUZ, I.Ye.

Approximation by piecewise-polynomial functions. Izv. AN SSSR.
Ser. mat. 27 no.4:723-746 J1-Ag '63. (MIRA 16:8)

(Functions, Continuous)

S/020/63/148/005/001/029
B112/B186

AUTHORS: Brudnyy, Yu. A., Kotlyar, B. D.

TITLE: The order of growth of ε -entropy on certain compact classes of functions

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1001-1004

TEXT: The class W of bounded functions f is considered, the k_i -th moduli $\omega_{k_i}^{(i)}(f; t)$ of smoothness of which do not exceed the given non-decreasing functions $\psi_i(t)$, which are continuous and vanishing in the origin. In accordance with A. N. Kolmogorov (DAN, 108, No. 3 (1956)), the ε -entropy $H_\varepsilon(W)$ is defined with respect to the class W . For

$\psi_i = t^{\beta_i}$ ($\beta_i \leq k_i$), the order of growth of $H_\varepsilon(W)$ is derived equal to

$$-\sum_{i=1}^n \beta_i^{-1}$$

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The order of growth of ϵ -entropy on ...

S/020/63/148/005/001/029
B112/B186

PRESENTED: August 17, 1962, by A. N. Kolmogorov, Academician

SUBMITTED: August 17, 1962

Card 2/2

BRUDNYY, Yu.A.

Generalization of a theorem of A F. Timan. Dokl. AN SSSR 148
no.6:1237-1240 F '63. (MIRA 16:3)

1. Predstavleno akademikom S.N.Bernshteynom.
(Functions) (Polynomials)

BRUDNYY, Yu.A.

A theorem on local best approximations. Uch. zap. Kaz. un. 124
no.6:43-49 '64. (MIRA 18:9)

BRUDNYY, Yu.A.

Local best approximation of functions by polynomials. Dokl. AN
(MIRA 18:5)
SSSR 161 no.4:746-749 Ap '65.

1. Dnepropetrovskiy sel'skokhozyaystvennyy institut. Submitted
October 27, 1964.

BRUDOVSKIY, B.S.

Countable conditions in locally convex spaces. Dokl. AN SSSR 152
no.5:1031-1033 O '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I.
Lenina. Predstavleno akademikom P.S.Novikovym.

BRUNZ, V.G.; KARSKAYA, T.N.; kand.khim.nauk; KOSHELEVA, G.N., kand.khim.
nauk; MAIKHEL, G.H.; POSLAVSKAYA, K.D.; UEDIHOVA, H.A.; USKOVA,
L.Ye.; FLORENSKAYA, T.N.; REZHETINA, S.V., red.; MATVEYEVA, A.Ye.,
tekh.n.red.

[Organic reagents and chemicals for laboratory practice; technical
specifications] Reaktivy i preparaty dlia laboratornykh rabot
otganicheskii; tekhnicheskii usloviia. [Moskva] Standartgiz.
(MIRA 11:6)
Pt.1. 1957. 136 p.

1. Russia (1923- U.S.S.R.) Ministerstvo khimicheskoy promyshlen-
nosti. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut khimiche-
skikh reaktivov Ministerstva khimicheskoy promyshlennosti (for all
except Rezhetina, Matveyeva)
(Chemical tests and reagents--Standards)

BRUDZ', V.G.; GLOBUS, R.L.; GRACHEVA, L.I.; GROZOVSKAYA, A.M.

Production of lead cyanamide and its use as a pigment in paints
and lacquers. Khim. prom. no.6:352-356 S '57. (MIRA 11:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut - 4.

(Lead cyanamides)
(Pigments)

AUTHOR: Brudz', V. G.

64-58-3-18/20

TITLE: News in Brief (Khronika)
Transactions of the All-Union Conference on the Production of Chemical Reagents and Preparations
(Vsesoyuznoye soveshchaniye po proizvodstvu khimicheskikh reaktivov i preparatov)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 3, p. 60
(USSR)

ABSTRACT: In March this year the above-mentioned conference of industrial workers and scientific organizations was held in Moscow under participation of representatives of the MKhP and the administration of the State Scientific Technical Committee, of the Standard Committee, of the Committee for standard measuring instruments, of the Ministry of Public Health of the USSR, of the Leningrad, Khar'kov and some other Councils of National Economy, as well as the plants for chemical reagents, for scientific research, projection and other organizations. 14 reports were held, among them those of G. V. Chuchkin, R. P. Lastovskiy, R. L. Globus,

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News in Brief

Transactions of the All-Union Conference on the
Production of Chemical Reagents and Preparations

64-58-3-18/20

V. G. Brudz', D. M. Frayshtadt and P. S. Bykov. The Engineers of the plants for chemical reagents V. I. Golyakov, N. I. Bushmarin, A. L. Lifshits, A. S. Mun'kin, N. K. Golubev, Ya. M. Shmekker, V. G. Dvorovenko and the director of the glass industry A. S. Yelisin talked on the state of affairs and the perspectives of development of the plants for the period 1959-1965. In consideration of the reports one project of the plan of development for 1959-1965 was accepted.

1. Reagents--Production 2. Industrial plants--Development

Card 2/2

BRUDZ', V.G.

all-Union Conference on the manufacture of chemical reagents and
preparations. Khim. prom. no.3:188 Ap-May '58. (MIRA 11:6)
(Chemicals industry—Congresses)

BRUDZ', V.G.; ROZINA, D.Sh.; NESTERENKO, L.T.

Synthesis of lead phthalate. Trudy IREA no.22:139-141 '58.
(MIRA 14:6)

(Phthalic acid)

BRUDZ', V.G.; DRAPKINA, D.A.; Prinimali uchastiye: DOROSHINA, N.I.
laborant; PANKOVA, E.S., laborant

Synthesis of N,2-benzylaminoethanol. Trudy IREA no.22:142-
146 '58. (MIRA 14:6)

(Ethanol)

97/4094

PLASTIC BOOK EXPLANATIONS

Amalsiya, bank 5322. Institut nauchoy informatsii

Russkaya promyshlennost' USSR (The Chemical Industry of the USSR)
Moscow, Gostizdat, 1959. 457 p. Errata slip inserted. 4,100 copies printed.

Sponsoring Agency: USSR. Gosudarstvennyy nauchno-tekhnicheskiy komitet.
Ed.: E. E. Kuznetsov, Ed.: P. V. Pogudin; Editorial Board: A. P. Vinogradov,
M. I. E. Kuznetsov, M. I. Kuznetsov, V. S. Kuznetsov, I. A.
S. V. Kuznetsov, M. M. Zhelezovskiy, S. S. Medvedev, B. D. Mel'nik, A. A.
Kuznetsov, A. A. Ryabov (Chief Ed.), and A. V. Topyalov.

Purpose: This book is intended for the personnel of the chemical industry. It
will be of interest to the general reader interested in the development and
structure of the Soviet chemical industry.

Contents: This book contains 18 articles on various aspects of the Soviet
chemical industry. Among the developments in the production of raw materials
for the manufacture of chemical products discussed are: 1) the use of raw
materials synthesized from natural gas (alcohol, detergents, etc.); 2) the
production of synthetic rubber; 3) the production of synthetic fibers; 4) the
production of acetylene from natural gas and petroleum gases for the synthesis
of vinyl chloride, acrylonitrile, chloroprene, trichloroprene, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

along with methods of manufacturing plastic articles. A special ep-
paratus designed by Ye. M. Kuznetsov and designated "K" which permits
preparation of viscous solution in one operation is discussed. It is being
used to replace the old, conventional equipment with great success in the
space. General methods in the technology of synthetic rubber production are
also discussed. A historical review of synthetic rubber production is given as
the achievements of outstanding Soviet scientists in this field are given as
well as the achievements of outstanding Soviet scientists in the development of
the achievement, locations and products of synthetic rubber plants. Rubber
production and the manufacture of rubber goods are discussed. The
technical data and outstanding personnel, fertilizers, insecticides and
pesticides, dyes, paints and lacquers, adhesives, explosives, radioactive
materials, and chemical elements are given. Catalytic processes
and automation and electronic devices used in the chemical industry are
also discussed. Thirty-eight photographs included in the book show outside
and interior views of some Soviet chemical industry plants, as well as
their manufacturing, material-handling and laboratory equipment. Numerous
photomicrographs and facilities are identified in the body of the text.
Persons accompanying individual articles.

Vol. 1. Chemicals, S. I., A. M. Rubinitzky (across), and M. A. Simolin. The Production of Mineral Fertilizers and Pesticides	296
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BRUDZ', V.G.
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PHASE I BOOK EXPLOITATION

SOV/3910

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov
Veshchestva vysokoy chistoty i reaktivy; sbornik statey (High Purity Substances
and Reagents; Collection of Articles) Moscow, Goskhimizdat, 1959.
186 p. (Series: Its:Trudy, vyp. 23) Errata slip inserted. 1,700
copies printed.

Sponsoring Agency: USSR. Sovet Ministrov. Gosudarstvennyy komitet po khimii.

Ed.: Yu.V. Lyande; Tech. Ed.: Ye.G. Shpak; Editorial Board of Series:
V.G. Brudz', V.M. Dzlomko, R.P. Lastovskiy (Resp. Ed.), A.M. Lukin,
G.E. Malkiel', G.I. Mikhaylov, G.A. Pevtsov (Deputy Resp. Ed.), and
I.G. Shafran.

PURPOSE: This book is intended for personnel of chemical research and industrial
chemical laboratories.

COVERAGE: The book contains 36 articles by affiliates of the Scientific Research
Institute for Chemical Reagents (IREA) treating methods which may be adopted

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SCV/3910

High Purity Substances (Cont.)

by different branches of industry in producing, analyzing, and studying inorganic and organic substances of high purity. Figures, tables, and references accompany each article. No personalities are mentioned.

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AVAILABLE: Library of Congress

JA/rn/gmp

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5(2, 3)

SOV/63-4-2-19/39

AUTHORS: Brudz', V.G., Uyedinova, N.A.

TITLE: The State of the Production of Chemical Reagents

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 2,
pp 260-262 (USSR)

ABSTRACT: In the USSR about 90% of all chemical reagents are produced in specialized reagent plants. The production does not satisfy the demand, however. The assortment comprises 3,000 types, 1,000 of which are inorganic and 2,000 organic reagents. The assortment of foreign countries is many times larger. In Czechoslovakia reagents for cations and anions, complexometric indicators, etc of 2,000 different types are produced by "Chemapol". Biochemical preparations and complexons are made in Hungary. The insufficient production in the USSR is explained by a lack of production area. It is planned to increase the assortment to 20,000 - 25,000 reagents by 1965. The plant "Krasnyy khimik" will increase the production of sulfuric and hydrochloric acids, substances of high purity, etc. A large plant for organic and a plant for inorganic reagents will be erected. In the Volga Region a plant for the production of reagents for the aliphatic and aromatic series is planned. The scientific research in

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30V/63-4-2-19/39

The State of the Production of Chemical Reagents

the field of reagents is insufficient. It is planned to build two new branches of the Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov (All-Union Scientific Research Institute of Chemical Reagents). At present more than 250 compounds and preparations with radioisotopes are available in the USSR.
There are 2 tables.

Card 2/2

TEMKINA, V.Ya.; LASTOVSKIY, R.P.; BRUDZ', V.G.

Hexamethylenediamine acetate. Metod.poluch.khim.reak.i prepar.
no.4/5:32-33 '62. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i osobo chistykh khimicheskikh veshchestv.

STARTSEV, V.I., otv. red.; ALEKSANDROV, B.S., red.; BELAYEV, L.M., red.; BRUDZ', V.G., red.; VOYTOVETSKIY, V.K., red.; GALANIN, M.D., red.; DISTANOV, B.G., red.; KLIMOV, A.P., red.; SEMENENKO, M.G., red.; SHAMOVSKIY, L.M., red.

[Scintillators and scintillation materials] Stsintilliatory i stsintilliatSIONnye materialy. Moskva, Gos. komitet Soveta Ministrov SSSR po khimii, 1960. 319 p. (MIRA 15:4)

1. Koordinatsionnoye soveshchaniye po stsintilliatoram. 2nd, 1957. (Scintillation counters)

BRUDZ', V.G.; USKOVA, L.Ye.; NOVKOVSKAYA, N.A.; POSLAVSKAYA, K.D.; RAKOVSKAYA, V.A.; PETROVA, G.D.; BROVKIN, L.V., red.; SHPAK, Ye.G., tekhn. red.

[Manual of technical specifications for reagents and preparations used in laboratory work; organic reagents and preparations] Sbornik tekhnicheskikh uslovii na reaktivy i preparaty dlia laboratornykh rabot; organicheskie reaktivy i preparaty. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry. 1961. 582 p. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimreaktivov i osobo chistykh veshchestv Gosudarstvennogo komiteta Soveta Ministrov SSSR po khimii (for all except Brovkin, Shpak). (Chemical tests and reagents)

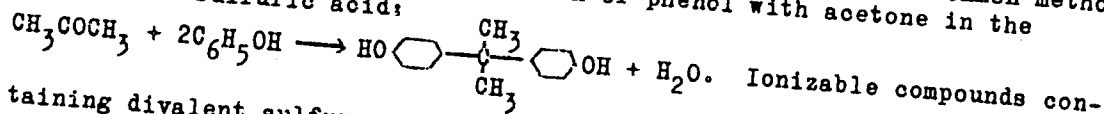
S/191/61/000/003/014/015
B124/B203

AUTHORS: Bilik, I. M., Globus, R. L., Brudz', V. G.

TITLE: Synthesis of diphenylol propane

PERIODICAL: Plasticheskiye massy, no. 3, 1961, 69-70

TEXT: 4,4'-dioxy-diphenyl dimethyl methane (diphenylol propane) is used in the industry as initial substance for the production of epoxy and modified phenol resins, polycarbonates, and antioxidants. A common method for its production is the condensation of phenol with acetone in the presence of sulfuric acid;



taining divalent sulfur are recommended as catalysts. According to published data (Ref. 1; US Pat. 2,468,982 (1949)), mercapto acetic and mercapto propionic acid are good catalysts. To attain the required mobility of the mass, such inert solvents as toluene, solvent naphtha, etc., are used. The mentioned method of synthesizing diphenylol propane

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Synthesis of diphenylol propane

S/191/61/000/003/014/015
B124/B203

does, however, not always yield reproducible results, and the product is sometimes of inferior quality with a melting point below 145°C. First, the authors showed that the addition of ethyl alcohol (15-20% referred to the phenol weight) to the reaction mixture during the condensation of phenol with acetone in the presence of mercapto acetic and sulfuric acid raised the quality of diphenylol propane (Ref. 3; R. L. Globus, I.M.Bilik, V. G. Brudz', V. I. Talykova, authors' certificate 129814; Biull.izobret., no. 13 (1960)). The laboratory method of producing diphenylol propane was checked under industrial conditions. The test results obtained are:

Diphenylol propane obtained, g	Yield in diphenylol propane, % of the theory, referred to the charged phenol	Melting point, °C
56.9	92.30	152 - 154.3
52.0	84.40	153 - 154.3
55.8	90.60	152 - 153
54.0	87.65	150 - 152
57.2	92.84	152.5 - 154
53.2	86.35	153.5 - 155
57.8	93.81	153 - 154

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Synthesis of diphenylol propane

S/191/61/000/003/014/015
B124/B203

A. M. Serebryanny, N. M. Bondarets, and L. I. Gracheva assisted in the work. There are 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc.

Card 3/3

S/674/61/000/024/001/003
D227/D301

AUTHORS:

Brudz', V.G. and Drapkina, D.A.

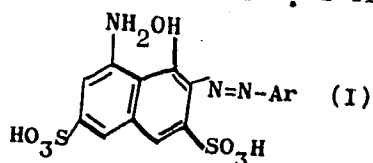
TITLE:

'Sulphonazo', a new reagent for the colorimetric determination of scandium

SOURCE:

Moscow. vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov. [Trudy] no. 24, 1961. Khimicheskiye reaktivy i preparaty, 60-72

TEXT: In the present work the authors conducted a series of experiments to find a suitable reagent for scandium. The most sensitive and selective proved to be compounds of the general formula -



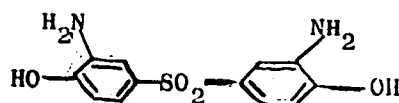
Card 1/3

obtained by reacting diazotised derivatives of o-aminophenol with H-acid. 27 Compounds have been tested and their suitability established by determining their sensitivity and selectivity for Sc and stability of light absorption

'Sulphonazo', a new ...

S/674/61/000/024/001/003
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of the complex in the presence of the reagent excess within a preset pH range. The influence of pH on the coloration of the reagents and their complexes with scandium was determined for each dye by measuring the optical density (D) of solutions containing (1) 2×10^{-5} M dye solution (D_1), (2) 2×10^{-5} atomic fraction of scandium and 2×10^{-5} M dye solution (D_2), (3) 2×10^{-5} atomic fraction of scandium and 4×10^{-5} M dye solution (D_3). The pH range of 1.5 - 8.0 was maintained with an urotropine - HCl buffer. The measurements were carried out using a ФЭК-М (FEK-M) photocolormeter with a red filter, on 10 mm columns of the solution. For each compound $D_3 \approx D_1 + D_2$ at pH corresponding to the maximum coloration. By plotting D_3 against pH it was possible to find optimum pH ranges at which D_3 remained constant. The compound named "sulphonazo", obtained from (p.62, 4)



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'Sulphonazo', a new ...

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and H-acid gave the best defined range (pH 5.0 - 0.2, violet-blue coloration) and proved least sensitive to the rare earths, Y and Al. Furthermore detailed studies have been conducted by K.A. Smirnova at IREA and V.I. Titov and Ye. P. Osiko at VIMS. Besides the reaction with scandium, "sulphonazo" may prove of interest in determining V, Ga and In. "Sulphonazo" may be conveniently prepared diazotizing 0.01 mol of bis-(3-amino-4-hydroxyphenyl)-sulphone in a solution of 60 ml water, 20 ml glycerine and 5 ml conc. HCl by the usual procedure. The resulting orange-yellow suspension is then added slowly to 8 g of H-acid solution in 60 ml of 10% soda solution at 10-15°C. After stirring for 2 hours at room temperature and 2 hours at 30-40°C, the reaction mixture is heated to 50-60°C and the product precipitated by the addition of dilute HCl. After filtering hot, the residue is washed and re-precipitated from hot, slightly acidified water to yield 7 - 7.5 g of the dry product. The dye which is a dark-brown powder with a metallic shine gives violet-blue solutions in water at pH below 5.5, which change to blue in alkaline solutions. It is practically insoluble in organic solvents. There are 4 figures, 3 tables and 10 Soviet-bloc references.

Card 3/3

BRUDZ', V.G.; VAYNSHTEYN, Yu.I.; DAVYDOVSKAYA, Yu.A.; DRAPKINA, D.A.;
MARKOVICH, I.S.

Polarographic method of analysis of solutions obtained in the
production of glyoxal. Zav.lab. 27 no.9:1087-1090 '61.(MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov.

(Glyoxal)

(Polarography)

BILIK, I.M.; SEREBRYANYI, A.M.; GLOBUS, R.L.; BRUDZ', V.G.

Preparation of diphenylol propane. Khim.prom. no.2:93-96
F '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.

(Diphenylol propane)

DRAPKINA, D.A.; BRUDZ', V.G.; GRACHEVA, L.I.

Bromobenzothiazole. Met. poluch. khim. reak. i prepar.
no.6:20-22 '62.

6-Bromo-2-aminobenzothiazole. Ibid.:22-25 (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i osobo chistykh khimicheskikh veshchestv.

S/075/62/017/005/001/007
I033/I233

AUTHORS: Brudz', V.G., Titov, V.I., Osiko, Ye. P.,
Drapkina, D. A., and Smirnova, K.A.

TITLE: Sulphonazo as a reagent for the determination of
scandium

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no.5, 1962,
568-573

TEXT: Properties of various reagents which produce colored
compounds with Sc ions were investigated and compared. The best
results were obtained in the case of sulphonazo. For a solution of
pH 4.0 - 5.5, buffered by urotropine or acetate, the peak of
optical density is obtained at 610-620 m μ . The Beer law is obeyed

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S/075/62/017/005/001/007
I033/I233

Sulphonazo as a reagent....

up to a concentration of 80 ~~mg~~/25 ml. In an urotropine medium color develops immediately and is less affected by changes of pH; in an acetate medium the reaction is more selective. 50 ~~mg~~ of Sc may be determined in the presence of 20 mg Y, V(V), Co, and Ga should be absent; In, Cu, U(VI), Ni, Al, and Zn also interfere. 500-1000-fold excesses of alkali metals, alkaline earths, R.E., Mn(II), Tl, Be, Cr(III), Cd, Pb, Ge, Mo and Re do not interfere. This method was used for determination of Sc in rocks. The results agree with those obtained by the spectrochemical method within 10%.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistyykh khimicheskikh veshchestv i Vsesoyuznyy nauchno-issledovatel'skiy

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S/075/62/017/005/001/007
I033/I233

Sulphonazo as a reagent....

institut mineral'nogo syr'ya (All-Union Scientific
Research Institute of Chemical Reagents and High
Purity Chemical Substances, and All-Union Scientific
Research Institute of Mineral Raw Materials) Moscow

SUBMITTED: May 20, 1961

Card 3/3

DRAPKINA, D.A.; BRUDZ', V.G.; SMIROVA, K.A.; DOROSHINA, N.I.

Photometric determination of cadmium by means of "bromobenzothiazol".
Zhur.anal.khim. 17 no.8:940-944 N '62. (MIRA 15:12)

1. All-Union Scientific-Research Institute of Chemical Reagents
and Chemical Substances of Special Purity, Moscow.
(Cadmium—Analysis) (Chemical tests and reagents)

DRAPKINA, D.A.; BRUDZ', V.G.; SIDENKO, Z.S.

Study in the series of azo dyes, derivatives of 2-aminobenzothiazole.
Zhur.ob.khim. 32 no.5:1535-1540 My '62. (MIRA 15:5)
(Azo dyes) (Benzothiazole)

BILIK, I.M.; SEREBRYANYI, A.M.; GLOBUS, R.L.; BRUDZ', V.G.

Bisphenols. Part 1: Condensation of phenol with acetone in the presence of boron fluoride. Zhur.ob.khim. 32 no.6:1945-1948 Je '62.

(MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.
(Phenol) (Acetone) (Boron fluoride)

L 9861-63 EWP(j)/EPF(o)/EWT(l)/EWT(m)/BDS---AFFTC/ASD/ESD-3---Po-L/Pr-L---
RM/WW/MAY/IJP(O)

ACCESSION NR: AP3001353

S/0048/63/027/006/0754/0757

AUTHOR: Terskoy, Ya. A.; Bolotin, B. M.; Brudz', V. G.; Drapkina, D. A. 75
73

TITLE: Effect of the substituent on the luminescence of azomethynes [Report of the Eleventh Conference on Luminescence held in Minsk from 10 to 15 September 1962]

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 27, no. 6, 1963, 754-757

TOPIC TAGS: luminescence of azomethynes, salicylaldehyde derivatives, hydroxynaphthandehyde derivatives

ABSTRACT: A number of substances containing an azomethyne group are known to exhibit strong luminescence in the crystalline state. Hence investigation of crystalline azomethynes and factors intensifying luminescence is of practical and theoretical interest. The authors synthesized and investigated 44 azomethynes: derivatives of salicyl- and beta-hydroxynaphthaldehydes, using procedures described in the literature, and five derivatives of para-dimethyl-aminobenzaldehyde. The spectra of the former in the powdered state were recorded

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L 9861-63

ACCESSION NR: AP3001353

2

on an ISP-51 spectrograph with an FEP-1 attachment and an FEU-17 photomultiplier at room temperature; the spectra of the latter were studied in the crystalline state and in frozen dimethylformamide solutions at 77°K. Former investigators (Nurmukhametov, R. N.; Shirogin, D. N.; Kozlov, Yu. I.; Puchkov, V. A. - Optika i spektroskopiya, 11, 606, 1961 and Doklady AN SSSR, 143, 1145, 1962) inferred that the luminescence of azo compounds and azomethynes is connected with hydrogen bond association leading to formation of a quasi-aromatic six-membered ring. The present results indicate that this factor, while favorable, is not decisive; strong luminescence persists in frozen solutions where intermolecular H-bonding is impossible. The authors attribute the intense luminescence of crystalline azomethynes to inductive or field action of the substituents. The data may prove useful in guiding the choice of substituents to obtain bright luminescence in the series of meta-substituted derivatives. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv (All-Union Scientific Research Institute of Chemical Reagents and High-Purity Substances)

Card 2/3

BILIK, I.M.; SEREBRYANYI, A.M.; GLOBUS, R.L.; BRUDZ', V.G.

Bisphenols. Part 2: Condensation of phenols with ketones in the presence of boron fluoride. Zhur.ob.khim. 33 no.2:487-490 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.
(Phenols) (Ketones) (Boron Fluoride)

BRUDZ', V.G.; ROZINA, D.Sh.; NESTERENKO, L.T.

Acid guanidine malonate (acid malonic salt of urea imide).
Metod.poluch.khim.reak.i prepar. no.4/5:20-21 '62.

Guanidine-aluminum sulfate. Ibid.:21-22

Lead phthalate (neutral lead salt of phthalic acid). Ibid.:30-32
(MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i osobo chistyykh khimicheskikh veshchestv.